

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



01 MAR 2005



(43) International Publication Date  
11 March 2004 (11.03.2004)

PCT

(10) International Publication Number  
**WO 2004/020074 A1**

(51) International Patent Classification<sup>7</sup>: **B01D 45/16**,  
5/00, B04C 3/00, 3/06

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(21) International Application Number:  
PCT/EP2003/009810

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:  
2 September 2003 (02.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
02078596.0 2 September 2002 (02.09.2002) EP

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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**Published:**

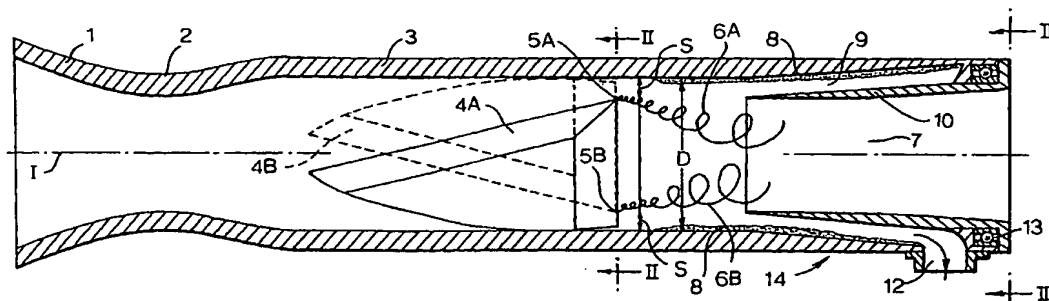
— with international search report

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: CYCLONIC FLUID SEPARATOR



(57) **Abstract:** A cyclonic fluid separator for separating condensable, liquid and/or solid components from a fluid mixture comprises an upstream fluid inlet section in which the fluid mixture is accelerated to a supersonic velocity to expand and cool the fluid mixture such that one or more condensable fluid components are liquefied and/or solidified, a downstream separation section in which condensables depleted and condensables enriched fluid fractions are separated and fed into separate outlets, and a midstream vortex generation section which comprises a plurality of tilted wings of which the wing tips (5A, 5B) are located at relatively large mutual spacings (D) and at a small spacing ( $S < 0.2W$ ) from the inner wall of the midstream vortex generation section such that during normal operation of the separator adjacent to the various wing tips widely spaced vortices 6A, 6B of swirling fluid are generated in the fluid stream flowing through the housing, which vortices 6A, 6B are still separated from each other at the entrance of the downstream separation section.